

Docket No. 034300-000544

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A multi-band antenna system, comprising:
a dipole antenna;
transmission means having a first end coupled to the dipole antenna; and
a reactive circuit element coupled between a second end of the transmission means and a PC Card wireless modem,
wherein the reactive circuit element and a loop section of the transmission means ~~are~~ configured to operate as a trap for received signals having frequencies within a first frequency band.
2. (Original) The multi-band antenna system of Claim 1 wherein the dipole is configured to receive signals having frequencies within a second frequency band.
3. (Original) The multi-band antenna system of Claim 2 wherein the first frequency band corresponds to the CDMA 0.86 GHz band and the second frequency band corresponds to the PCS 1.92 GHz band.
4. (Original) The multi-band antenna system of Claim 1 wherein a ground plane of a printed circuit board of the PC Card wireless modem and/or a conductive

housing of the PC Card wireless modem functions as a counterpoise for the antenna apparatus.

5. (Original) The multi-band antenna system of Claim 4 wherein combined lengths of a pole of the dipole antenna and a portion of the transmission means operate as a monopole antenna for received signals having frequencies within the first frequency band.

6. (Original) The multi-band antenna system of Claim 1, further comprising a matching circuit coupled between first and second poles of the dipole antenna.

7. (Original) The multi-band antenna system of Claim 6 wherein said matching circuit is further configured to operate as a balun.

8. (Original) The multi-band antenna system of Claim 6 wherein the matching circuit, the dipole, and a portion of the transmission means are formed on a first printed circuit board.

9. (Currently Amended) The multi-band antenna system of Claim 1 wherein the reactive circuit element is formed on a printed circuit board.

10. (Currently Amended) The multi-band antenna system of Claim 8 wherein the reactive circuit element is formed on a second printed circuit board.

11. (Original) The multi-band antenna system of Claim 1, further comprising a diversity dipole.

12. (Original) The multi-band antenna system of Claim 9, further comprising a diversity dipole.

13. (Original) The multi-band antenna system of Claim 12 wherein the diversity dipole is formed on the printed circuit board.

14. (Original) The multi-band antenna system of Claim 10, further comprising a diversity dipole.

15. (Original) The multi-band antenna system of Claim 14 wherein the diversity dipole is formed on the second printed circuit board.

16. (Currently Amended) A multi-band antenna system for a portable communications device, comprising:

a dipole antenna;

transmission means having a first end coupled to the dipole antenna; and

a reactive circuit element coupled between a second end of the transmission means and the portable communications device,

Docket No. 034300-000544

wherein the reactive circuit element and a loop section of the transmission means are configured to operate as a trap for received signals having frequencies within a first frequency band.

17. (Original) The multi-band antenna system of Claim 16 wherein combined lengths of a pole of the dipole antenna, and a portion of the transmission means form a whip antenna capable of receiving signals having frequencies within the first frequency band.

18. (Original) The multi-band antenna system of Claim 16 wherein the dipole antenna is configured to receive signals having frequencies within a second frequency band.

19. (Original) The multi-band antenna system of Claim 18 wherein the first frequency band corresponds to the CDMA 0.86 GHz band and the second frequency band corresponds to the PCS 1.92 GHz band.

20. (Original) The multi-band antenna system of Claim 16 wherein the portable communications device comprises a PC Card wireless modem.

21. (Original) The multi-band antenna system of Claim 20 wherein a ground plane of a printed circuit board of the PC Card wireless modem and/or a conductive

housing of the PC Card wireless modem functions as a counterpoise for the antenna apparatus.

22. (Original) The multi-band antenna system of Claim 16, further comprising a matching circuit coupled between first and second poles of the dipole antenna.

23. (Original) The multi-band antenna system of Claim 22 wherein said matching circuit is further configured to operate as a balun.

24. (Original) The multi-band antenna system of Claim 22 wherein the matching circuit, the dipole, and a portion of the transmission means are formed on a first printed circuit board.

25. (Currently Amended) The multi-band antenna system of Claim 16 wherein the reactive circuit element is formed on a printed circuit board.

26. (Currently Amended) The multi-band antenna system of Claim 24 wherein the reactive circuit element is formed on a second printed circuit board.

27. (Original) The multi-band antenna system of Claim 16, further comprising a diversity dipole.

Docket No. 034300-000544

28. (Original) The multi-band antenna system of Claim 25, further comprising a diversity dipole.

29. (Original) The multi-band antenna system of Claim 28 wherein the diversity dipole is formed on the printed circuit board.

30. (Original) The multi-band antenna system of Claim 26, further comprising a diversity dipole.

31. (Original) The multi-band antenna system of Claim 30 wherein the diversity dipole is formed on the second printed circuit board.

32. (New) A portable communications apparatus having a multi-band antenna system adapted to conform to a first antenna configuration operable to receive radio frequency signals within a first wireless communications frequency band and adapted to conform to a second antenna configuration operable to receive radio frequency signals within a second wireless communications frequency band.

33. (New) The portable communications apparatus of Claim 32 wherein the first wireless communications frequency band overlaps with a radio frequency spectrum defined by a first wireless communications frequency band standard and the second communications frequency band overlaps with a radio frequency spectrum defined by a second wireless communications frequency band standard.

34. (New) The portable communications apparatus of Claim 33 wherein the first wireless communications frequency band standard is the CDMA frequency band standard and the second wireless communications frequency band standard is the PCS frequency band standard.

35. (New) The portable communications apparatus of Claim 32 wherein the first antenna configuration has one or more antenna poles of first predetermined physical dimensions for receiving the radio frequency signals within the first wireless communications frequency band, and the second antenna configuration has one or more antenna poles of second predetermined physical dimensions for receiving the radio frequency signals within the second communications frequency band.

36. (New) The portable communications apparatus of Claim 32 wherein the antenna system further comprises a reactive circuit element that controls whether the antenna system is configured to receive radio frequency signals using the first antenna configuration or is configured to receive radio frequency signals using the second antenna configuration.

37. (New) The portable communications apparatus of Claim 32 wherein the antenna system further comprises a reactive circuit that determines whether the one or more poles of the first predetermined physical dimensions or the one or more poles of the second predetermined physical dimensions are used to receive radio frequency signals.

TO: Central fax

COMPANY:

07-20-05

10:02

From-Thelen, Reid, & Priest LLP

T-822 P.013/028 F-105

Docket No. 034300-000544

38. (New) The portable communications apparatus of Claim 32 wherein the antenna system is detachable from the portable communications apparatus.

39. (New) The portable communications apparatus of Claim 38 wherein the portable communications apparatus comprises a PC Card wireless modem.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.